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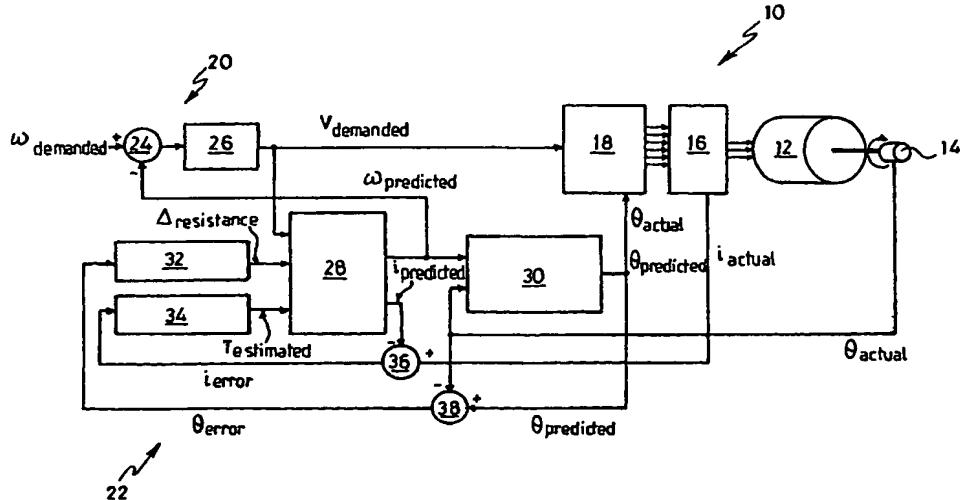
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(54) Title: CONTROLLER FOR A SYNCHRONOUS MOTOR



(57) **Abstract:** A controller for a synchronous motor, the controller being operable in use to receive from sensor means coupled to a synchronous motor actual angular displacement signals representative of angular displacements from a reference orientation of a rotor of a synchronous motor, to transmit the actual angular displacement signals to a controllable alternating current (ac) supply for the motor, periodically to measure one or more parameters related to the torque of a synchronous motor, and between transmissions of the actual angular displacement signals, to derive from the actual angular displacement signals and measured parameters at least one estimated angular displacement signal representative of an estimated angular displacement from a reference orientation of a rotor of a synchronous motor, to enable the controller to cause to flow between the supply and a synchronous motor a generally sinusoidal current that is synchronised to the angular displacement of the rotor from the reference orientation.

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